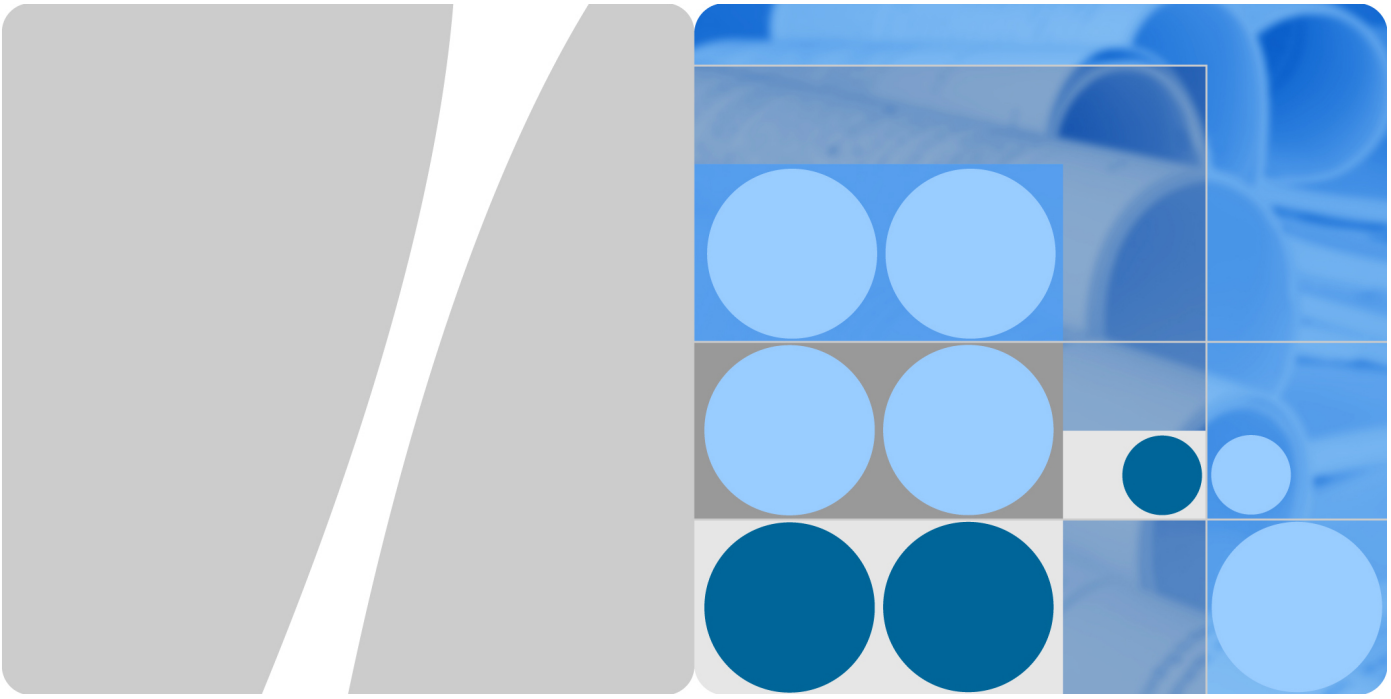

BBU3910 Product DATASHEET

Issue V1.0

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HUAWEI TECHNOLOGIES CO., LTD.

1. BBU3910

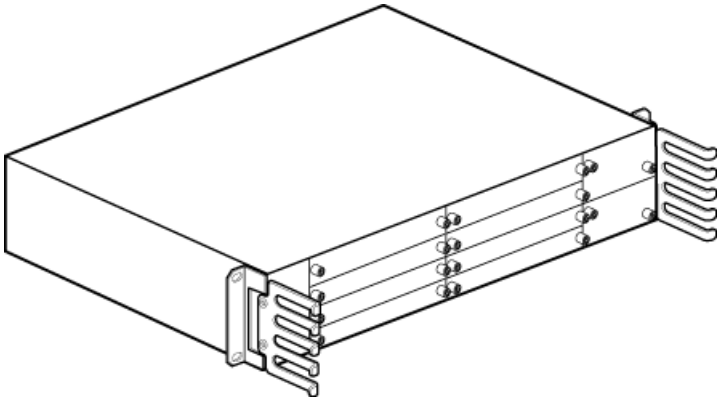
The BBU3910, a baseband control unit, is responsible for managing the interaction between the BTS and the BSC. The BBU3910's main functions are as follows:

- Manages the traffic and signaling interface between the BTS and the BSC.
- Provides clock synchronization/generation.
- Manages the entire BTS system in terms of Operation and Maintenance (OM) and signaling processing.
- Provides an OM channel connected to the LMT (or U2020).

1.1 Appearance of the BBU3910

With a compact case structure, the BBU3910 occupies a 19-inch-wide and 2-U-high space. It can be installed on a wall, on stairs, or in a storeroom. It can also be installed in the cabinet of the existing network equipment. Figure 1-1 shows the appearance of the BBU3910.

Figure 1-1 Appearance of the BBU3910



The following boards and modules are mandatory for the BBU3910:

- GTMU: main control board
- UBFA: FAN unit
- UPEU: power module

The following boards and module are optional for the BBU3910:

- USCU: Universal Satellite Card and Clock Unit
- UEIU: Universal Environment Interface Unit

1.2 Boards of BBU3910

The BBU3910 can be configured with the following boards and units:

- Main control and transmission board: GSM Transmission & Timing & Management Unit for BBU (GTMU)
- Universal Satellite card and Clock Unit (USCU)
- Surge protection unit: Universal E1/T1 Lightning Protection unit (UELP), Universal FE Lightning Protection unit (UFLP), or Universal Signal Lightning Protection unit 2 (USLP2)
- Universal Power and Environment Interface Unit (UPEU)
- Universal Environment Interface Unit (UEIU)
- FAN unit

BBU3910 boards support plug-and-play, and users can configure the boards as required.

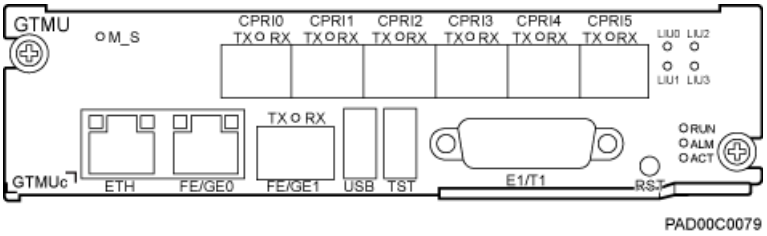
1.3 GTMU

The GTMU is the main control and transmission board for the GSM network. The type of GTMU is GTMUc.

Panel

Figure 1-2 shows the GTMUc panel.

Figure 1-2 GTMUc panel



Functions

The GTMU performs the following functions:

- Controls and manages the entire base station in terms of configuration, equipment, performance, security, and radio resources.
- Processes signaling messages.
- Provides a reference clock, an alarm input port, CPRI ports, transmission ports, and an OM channel to the LMT, SMT, or U2020.

Ports

Table 2-1 describes the ports on the GTMUc.

Table 2-1 Ports on the GTMUc

Identifier	Connector	Quantity	Description
CPRI0 to CPRI5	SFP female	6	Data transmission ports that interconnect with the RF modules. These ports support electrical and optical signal input and output.
ETH	RJ45	1	Local maintenance and debug port
FE0	RJ45	1	FE electrical port
FE1	DLC	1	FE optical port
USB	USB	1	Software loading port
TST	USB	1	Clock test port
E1/T1	DB26 female	1	E1/T1 port supporting four E1/T1s

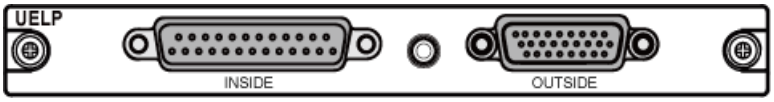
1.4 UELP

The UELP is a surge protection unit.

Panel

Figure 2-3 shows the UELP panel.

Figure 2-3 UELP panel



Functions

One UELP can provide surge protection for four E1/T1s.

Ports

Table 2-2 describes the ports on the UELP.

Table 2-2 Ports on the UELP

Identifier	Connector	Quantity	Description
INSIDE	DB25	1	Connects to a transmission board of the base station
OUTSIDE	DB26	1	Connects to an external transmission device

1.5 UFLP

There are two types of UFLP: UFLP and UFLPb. The UFLP provides surge protection for FEs. The UFLPb provides surge protection for FEs/GEs.

Panel

Figure 2-4 shows the UFLP panel.

Figure 2-4 UFLP panel

Figure 2-5 shows the UFLPb panel.

Figure 2-5 UFLPb panel

Functions

The UFLP provides surge protection for two FEs.

The UFLPb provides surge protection for two FEs/GEs.

Ports

Table 2-3 describes the ports on the UFLP.

Table 2-3 Ports on the UFLP

Identifier		Connector	Quantity	Description
INSIDE	FE0 and FE1	RJ45	2	Connects to a transmission board of the base station
OUTSIDE	FE0 and FE1	RJ45	2	Connects to an external transmission device

Table 2-4 describes the ports on the UFLPb.

Table 2-4 Ports on the UFLPb

Identifier		Connector	Quantity	Description
INSIDE	FE/GE0 and FE/GE1	RJ45	2	Connects to a transmission board of the base station
OUTSIDE	FE/GE0 and FE/GE1	RJ45	2	Connects to an external transmission device

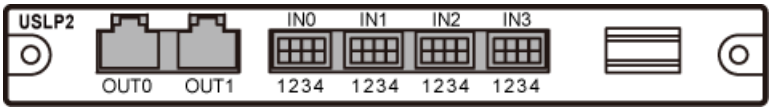
1.6 USLP2

The USLP2 is available as of SRAN3.0.

Panel

Figure 2-6 shows the USLP2 panel.

Figure 2-6 USLP2 panel



Functions

The USLP2 provides surge protection for monitoring signals.

Ports

Table 2-5 describes the ports on the USLP2.

Table 2-5 Ports on the USLP2

Identifier	Connector	Quantity	Description
IN0, IN1, IN2, and IN3	4-pin	4	Input ports, which connect to customized alarm devices
OUT0 and OUT1	RJ45	2	Output ports, which connect to EXT-ALM ports of the UPEU or UEIU in the cabinet

1.7 UPEU

The UPEU is a power module for the BBU3910. There are three types of UPEU: UPEUa, UPEUb, and UPEUc.

Panel

Figure 2-7 shows the UPEUa panel.

Figure 2-7 UPEUa panel

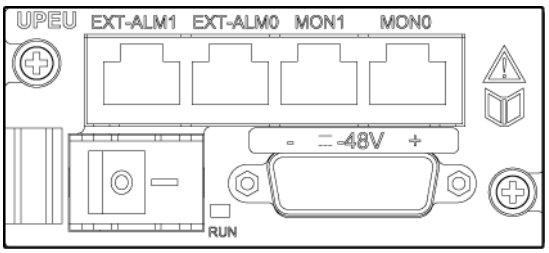


Figure 2-8 shows the UPEUb panel.

Figure 2-8 UPEUb panel

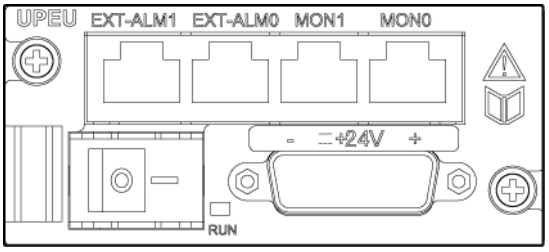
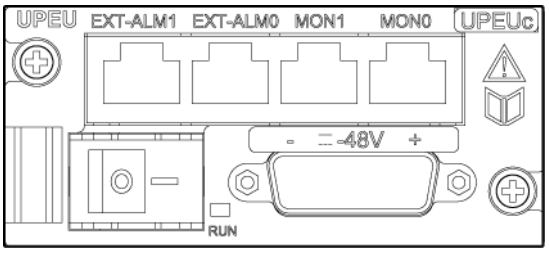


Figure 2-9 shows the UPEUc panel.

Figure 2-9 UPEUc panel



Functions

The UPEU performs the following functions:

- Provides two ports with each transmitting one RS485 signal and two ports with each transmitting four Boolean signals. The Boolean signals can only be dry contact or open collector (OC) signals.
- The UPEUa converts -48 V DC input power into +12 V DC and provides an output power of 300 W.
- The UPEUb converts +24 V DC input power into +12 V DC.
- The UPEUc converts -48 V DC input power into +12 V DC. A UPEUc provides an output power of 360 W. Two UPEUc boards provide a combined output power of 650 W.

Ports

The ports on the UPEUa, UPEUb, and UPEUc are the same. Table 2-6 describes the ports on the UPEUa/UPEUb/UPEUc.

Table 2-6 Ports on the UPEUa/UPEUb/UPEUc

Identifier	Connector	Quantity	Description
UPEUa/UPEUc: -48V	3V3	1	Port for +24 V or -48 V DC power input
UPEUb: +24V			
EXT-ALM0	RJ45	1	Port for Boolean inputs 0 to 3

EXT-ALM1	RJ45	1	Port for Boolean inputs 4 to 7
MON0	RJ45	1	Port for RS485 input 0
MON1	RJ45	1	Port for RS485 input 1

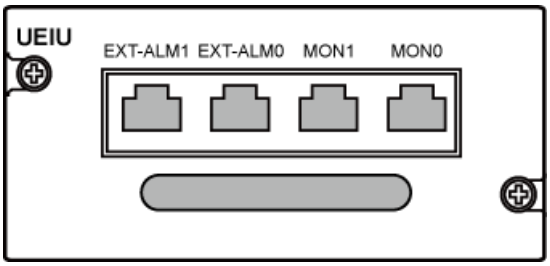
1.8 UEIU

The UEIU transmits information reported by the environment monitoring device and alarm information to the main control board.

Panel

Figure 2-10 shows the UEIU panel.

Figure 2-10 UEIU panel



Functions

The UEIU performs the following functions:

- Provides two ports, each transmitting one RS485 signal.
- Provides two ports, each transmitting four Boolean signals, which can only be dry contact or OC signals.
- Transmits information reported by the environment monitoring device and alarm information to the main control board.

Ports

Table 2-7 describes the ports on the UEIU.

Table 2-7 Ports on the UEIU

Identifier	Connector	Quantity	Description
EXT-ALM0	RJ45	1	Port for Boolean inputs 0 to 3
EXT-ALM1	RJ45	1	Port for Boolean inputs 4 to 7
MON0	RJ45	1	Port for RS485 input 0

MON1	RJ45	1	Port for RS485 input 1

1.9 FAN

The FAN is a fan unit for the BBU3910. There are two fan unit types for the BBU3910: FAN and FANc.

Panel

Figure 2-11 shows the FAN panel.

Figure 2-11 FAN panel

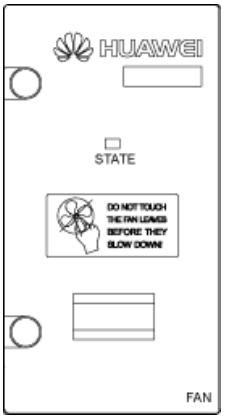
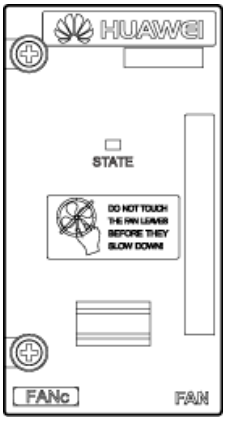


Figure 2-12 shows the FANc panel.

Figure 2-12 FANc panel



Functions

The FAN controls the rotation speed of the fans and monitors the temperature of the fan module. The FAN reports the status of the fans and the fan module to the BBU and dissipates heat from the BBU.